

ABSTRACT OF THE DISCLOSURE

Axial flow fan propellers are provided with a roughened portion along the trailing edge of the fan blades on the pressure side of the blade to minimize tonal acoustic emissions generated by laminar boundary layer vortex shedding. The roughened portion may be provided by trip surfaces formed in the blades, by strips of abrasive material adhered to the blades along the trailing edges, respectively, by parallel or cross-hatched serrations in the blades or by upturned or offset trailing edges of the blades. The height of the roughened portion should be about equal to the boundary layer thickness of air flowing over the blade surfaces during operation of the fan. The fan propellers are particularly advantageous in heat exchanger applications, such as residential air conditioning system condenser units.

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